Sawa Lake Electro Mechanical L.L.C

EEN 399F - Internship

Internship Summer 2013-2014
Weekly Activities

Interns:
Muhammad Obaidullah 1030313
Mohammed Ali Sadi 1003587

Supervisor:
Dr. Muhammad Akmal

EEN399 Field

July 19, 2014

1 Week 1

1. Engaged in research about RMUs (Ring Main Units), TRM (Tri Ring Main), and QRM (Quad Ring Main).

2. General Information about how RTUs (Remote terminal units) work.

3. W10 Khalidiyah Site Visit.

4. Feeder Pillars and Substation understanding and practical view.

5. Analyzing two previous company cases including AutoChim and Dhafir.

2 Week 2

1. Introduction to EasyPower.

2. Studying AutoCAD drawings from basic to complex systems provided by supervisor.

3. Using Easy Power to build High Voltage (HV) and Low Voltage (LV) systems

4. Yas Mall Site visit for transformer testing and commissioning.

5. Researching the theory behind the vector group test and developing the understanding.

6. Practical vector group test on the transformer.

7. Insulation Resistance Test and Polarization Index formulas and understanding.

8. practically finding out the insulation resistance using the Megger equipment.

9. Performing winding Resistance Test using the Megger's transformer ohm meter on all three coils and all 5 taps options.

10. Finding out transformer winding ratios test using the Megger's equipment and verifying it from the nameplate on the transformer.

3 Week 3

1. Using Easy Power to analyze the operation of relays.

2. Setting and configuring the relays on Easy Power for optimal simulation.

3. Generating Graphs Time-Current Curves (TCCs) to find the coordination values in case of fault for relays.

4. Generating different reports and understanding them.

5. Simulating the short circuit at different locations on the single line diagram and finding the fault currents at the fault buses.

6. Using short circuit analysis to set the protection relays and other protection equipment.

7. Generating reports of short circuit based on the analysis.

4 Week 4

1. General research about ETAP software and how to obtain legal license.

2. Familiarization with Abu Dhabi Distribution Company (ADDC) rules and regulations regarding safety at sites and work places.

3. Connecting DVR to local network for local access using the static IP.

4. Getting insight into previous clients of the company.

5 Week 5

1. Theoretical understanding and research of VLF cable testing and Practical analyses of the equipment used.

2. Getting to know the official procedure for acquiring ADDC approval for competent person, site access, and other permissions.

3. Configuring the router to perform Port Forwarding so that the local IP packets can be accessed globally using the ISP provided IP address.

4. Making the router's global IP static using the online services such as ddns and no-ip.com.

6 Week 6

In progress... Expected 1 site visit...